

**PATENT CLAIMS**

1. A contact nozzle for electric arc welding with continuous welding wire flowed through by welding current, which nozzle can be connected to a welding torch and comprises an electrically conductive contact tube with a longitudinal through-hole intended for passage of the welding wire during welding from an inlet end to an outlet end in said longitudinal hole, and also comprises a spring element intended to apply a force to the welding wire in a direction essentially transverse to the feed direction of the wire so as to press the welding wire against the inside of the contact tube, wherein the longitudinal hole has a first portion of length with a certain cross-sectional area at the inlet end and a second portion of length with a smaller cross-sectional area than the first, and in that the spring element has been mounted from the inlet end in the first portion of length of the longitudinal hole.

2. The contact nozzle according to Claim 1 also comprising means for preventing electric contact between welding wire and contact tube in one of the following areas: either the transition between the first and the second portion of length of the longitudinal hole, or the outlet end of the longitudinal hole.

3. The contact nozzle according to Claim 1 or 2 comprising an electrically insulating or high-resistance sleeve for preventing or reducing welding current transfer in a certain area.

4. The contact nozzle according to Claim 1 or 2 with insulating or high-resistance coating for preventing or reducing welding current transfer in a certain area.

5. The contact nozzle according to Claim 3 or 4 with

a sleeve or coating made of harder material than the contact tube for increased wear-resistance.

6. A spring element for being mounted in a contact  
5 nozzle according to any one of the preceding claims,  
which comprises a resilient contact tongue intended to,  
during use, apply a force to a passing welding wire  
essentially transversely to the feed direction of the  
wire and further comprising a distance element which  
10 after mounting in the contact tube gives the contact  
tongue its position in relation to the walls of the  
longitudinal hole.

7. The spring element according to Claim 6 also  
15 comprising a second distance element which after  
mounting in the contact tube gives the contact tongue  
its position in relation to the transition between the  
first and second portion of length of the longitudinal  
hole.

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8. The spring element according to either Claim 6 or  
7 where the contact tongue has been designed in a bowl-  
shaped manner essentially according to the diameter of  
the welding wire.

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9. A welding torch, which comprises the contact  
nozzle according to any one of Claims 1 to 5.